DOCUMENT RESUME

ED 251 441 SP 025 450

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TITLE Effective Student Teaching Experience: A Qualitative-Quantitative Study. Report No. 9060.
INSTITUTION Texas Univ., Austin. Research and Development Center for Teacher Education.
PUB DATE Feb 84
NOTE 53p.
AVAILABLE FROM Communication Services, Research and Development Center for Teacher Education, Education Annex 3.203, The University of Texas at Austin, Austin TX 78712.
PUB TYPE Information Analyses (070) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Comparative Analysis; *Cooperating Teachers; Higher Education; Individual Characteristics; *Interaction Process Analysis; *Interpersonal Communication; Preservice Teacher Education; Program Effectiveness; *Student Teachers; Teacher Attitudes; Teacher Behavior; *Teacher Student Relationship; *Teaching Experience

ABSTRACT

Three cooperating teacher-student teacher dyads identified as "most effective" and three dyads identified as "least effective" were compared and contrasted to determine characteristics that distinguished the more from the least effective experiences. Ten quantitatively scored instruments, administered to both cooperating teachers and student teachers, measuring a variety of personality, attitude, cognitive and professional characteristics, provided the quantitative data base. Individual journals, interviews, audiotaped conferences, and observations provided the qualitative data base. Findings indicated that certain practices of interaction during the student teaching experience are associated with more effective experiences: (1) a proactive stance; (2) clear and specific communication; (3) verbal and behavioral consistency; (4) adaptability; (5) analytical self-reflection; and (6) a positive, problem-solving approach. It was also found that every student teacher in a more effective experience reduced the amount of pupil movement in the classroom, while every student teacher in a less effective experience allowed progressively more movement. (Author/JD)

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EFFECTIVE STUDENT TEACHING EXPERIENCE: A QUALITATIVE-QUANTITATIVE STUDY

Susan Barnes and Sara Edwards

Report No. 9060

This Publication is One of

a Series on

Clinical Teacher Education--Preservice

Gary A. Griffin, Program Director

February 1984

SP 025 450

Abstract

This paper presents findings from a secondary analysis of data gathered in a large scale study of the student teaching experience conducted by the Research in Teacher Education (RITE) program at the Research and Development Center for Teacher Education. Three cooperating teacher-student teacher dyads from the study sample were identified by the RITE research staff as the "most effective" and the three dyads identified as the "least effective" in terms of the student teaching experience. For the present paper these dyads were compared and contrasted in an effort to determine which characteristics distinguished the more from the less effective experiences.

Both quantitative and qualitative data, collected over a semester long student teaching experience were used in this secondary analysis. Ten quantitatively scored instruments, administered to both cooperating teachers and student teachers, measuring a variety of personality, attitude, cognitive and professional characteristics, provided the quantitative data base. Individual journals kept by each cooperating teacher and student teacher throughout the experience, interviews conducted by RITE staff, audiotaped conferences between cooperating teachers and student teachers, and classroom observations by RITE staff provided the qualitative data base.

Findings from the present secondary analysis indicate that certain practices of interaction during the student teaching experience are associated with more effective experiences: a proactive stance; clear and specific communication; verbal and behavioral consistency; adaptability; analytical self-reflection; and a positive, problem-solving approach.

The single teaching variable consistently distinguishing between the more effective and less effective experiences was that of student movement. Every student teacher in a more effective experience reduced the amount of student movement in the classroom while every student teacher in a less effective experience allowed progressively more movement.

Introduction

The purpose of this paper is to present findings from a secondary analysis of data gathered in a study of student teaching (Griffin, Barnes, Hughes, O'Neal, Defino, Edwards, & Hukill, Note 1) conducted by the Research in Teacher Education program at the Research and Development Center for Teacher Education. The present paper focuses on characteristics which distinguished more effective student teaching experiences from less effective student teaching experiences.

Amidst the current general concern about the quality of education in the United States is the more specific concern regarding the preparation and training of teachers. One focal point of that concern is the clinical preservice experience, student teaching. The value of practice, on-the-job training, exposure, participation, experience, responsibility, trial-by-fire, and all related expressions, is unquestioned. There is also emphatic agreement on the essential need for the prospective teacher to have an "effective" student teaching experience in order to emerge as a competent classroom teacher. And a constant assumption has been that an experienced or "master teacher" will participate in the training of the new teacher. Literature and logic support the importance of the clinical experience of student teaching for the preparation of teachers. There is, however, less unanimity with regard to qualifications of the participants and to factors that contribute to "effective" experience. This modifying term "effective" appears so frequently in literature related to education (effective teaching, effective strategies, effective classroom management, effective practices, etc.) that shared agreement as to meaning is often assumed and definitions are seldom specified.

Defining an effective student teaching experience is like identifying a good marriage or a successful operation. Two persons at minimum are involved and outcomes sometimes belie prescriptive practice--as in the old joke where the operation is successful but the patient dies. Rigid adherence to accepted practice may be followed by undesired outcomes, while idiosyncratic deviations may result in exceeded expectations and serendipitous benefits. Both experience and observation can be used to argue that some persons have been able to teach successfully in the absence of a good student teaching experience while others have failed in spite of being highly rated and recommended following their student teaching experience.

For the purposes of the present research report "more effective" experiences are defined as those experiences in which the acquisition of technical skills of teaching was accompanied by the development of a concomitant ability to make appropriate judgments with regard to the application of those skills. Data analysis focused on the content and process of the interactions between the student teacher and the cooperating teacher in each of three experiences identified as more effective and three experiences identified as less effective.

Rationale

It is not the intent of this paper to raise questions regarding the value of the practice of clinical training (student teaching). Rather, using that as a given, this paper will identify factors associated with more successful student teaching experiences. The focus is on the effectiveness of the process, i.e., the practices employed during the student teaching experience. The question addressed is not whether one student teacher is "better" than another, but rather: what kinds of experiences and what

practices are more likely to facilitate the development of a student teacher's ability to successfully fulfill the responsibilities of a teaching position?

It seems logical that certain personal characteristics, interpersonal skills, and subject matter competency would affect success in the student teaching experience and the question of the influence of these factors on the success of the student teaching experience has been widely studied. Little critical attention has been given, however, to the student teaching process (Ryan, Note 2), even though it is typically the culmination of the preservice education of teachers. Current public pressure for improvements in education, including teacher education (Gardner, 1983), provides impetus for further study which will lead to more effective student teaching experiences. A major contribution toward that end is the identification of practices associated with more effective student teaching experiences.

Sample

From 88 cooperating teacher-student teacher dyads which comprised the general sample in a large scale, multi-site descriptive study of student teaching (Griffin et al., Note 1), 20 dyads were selected for intensive and extensive study. Each of the six RITE researchers involved in observation, data collection and analysis in the study, performed post hoc analysis of the data on the 20 dyads, individually and without consultation, for the purpose of identifying the three "most effective" and the three "least effective" experiences. Each researcher listed the criteria used in making the selections. Selection criteria included: 1) observers' perceptions of the progress of the student teacher in assuming responsibility for instruction and management of the classroom, 2) observers' assessment of the student teachers' readiness at the end of the experience to assume a

teaching position, 3) the instructional and management skills of the cooperating teachers, and 4) the directionality and degree of influence of the cooperating teacher on the practice of the student teacher. Those six dyads agreed upon by all six researchers as belonging in the two respective groups comprised the sample for the findings reported in this paper.

Five schools were represented, four elementary and one secondary. Two schools were predominantly low income, two middle income, and one upper income. Four of the schools were urban and one suburban. Four were ethnically mixed and one predominantly Anglo.

Data

This paper is based upon the following data sources: audiotaped conferences between cooperating teacher and student teacher (N = 29 conferences), individual journals kept by each cooperating teacher and student teacher throughout the student teaching experience (N = 243 entries), three interviews conducted by RITE staff with each cooperating teacher and each student teacher at the beginning, middle, and end of the experience (N = 36 interviews), and four one-hour classroom observations of each cooperating teacher and each student teacher (N = 48 observation hours). In addition, 10 quantitatively scored instruments were administered to both cooperating teachers and student teachers to measure a variety of personality, attitude, cognitive and professional characteristics. Figure 1 displays the particular constructs measured, the instruments used, and selected references for each instrument. The final formal university evaluations of student teachers were also collected and analyzed. Finally, several rating scales constructed by the research project staff (student teacher satisfaction with the experience and performance [both self-rating and a rating of the other participant]) were analyzed as outcome measures.

Construct	Instrument Title	References
Empathy	Empathy Construct Rating Scale	LaMonica, Note 3
Flexibility	Different Situations Adaptation Scale	Hughes, Griffin, & Defino, Note 4
Self-Esteem	Self-Perception Inventory Teacher Inventory	Soares & Soares, 1980
Locus of Control	James Internal-External Locus	Robinson & Shaver, 1975
Conceptual Level	Paragraph Completion Test	Harvey, Hunt, & Schroder, 1961
Cognitive Style	Group Embedded Figures Test	Witkin, Oltman, Raskin, & Karp, 1971
Vocabulary	Quick Word Test	Borgatta & Corsini, 1960
Educational Preference	Educational Preference Scale	Lacefield & Cole, Note 5
Teacher Concerns (Self, Task, Impact)	Teacher Concerns Checklist	Fuller, 1969
Teacher Work-Life	Teacher Work-Life Inventory	Blumberg & Kleinke, Note 6
Expectations	Student Teacher Expectations Scale, Cooperating Teacher Expectation Scale, University Supervisor Expectation Scale	Hughes & Hukill, Note 7
Performance	Student Teacher by Cooperating Teacher and University Supervisor, Student Teacher by Self, Cooperating Teacher by Student Teacher, Cooperating Teacher by University Supervisor, Cooperating Teacher by Self, University Supervisor by Student Teacher, University Supervisor by Cooperating Teacher, University Supervisor by Self	Hughes & Hukill, Note 7
Satisfaction	Student Teaching Satisfaction Scale	Hughes & Hukill, Note 7

Figure 1. Instruments Used in the Student Teaching Study by Constructs

Analysis

Quantitative

For the purposes of this paper, the data from the quantitative instruments were analyzed at a descriptive level. Since the student teachers in the two groups represented the best and worst experiences from a qualitative point of view, the results from the quantitative instruments were examined for possible validation of those qualitative judgments. The descriptive statistics reported here serve that limited purpose only. More complete analyses of these instruments are available in Griffin et al., (Note 1) and Hughes and Hukill (Note 7).

Classroom observations were coded to provide frequencies of selected variables (e.g., direction-giving). These frequencies were normalized for the length of observation and for number of students in the classroom and averaged across observations for each participant. Again, the mean rates reported here for individuals and for groups are for descriptive purposes.

Qualitative

Using a case study approach, data were qualitatively analyzed to determine the characteristics of each dyad. The authors independently read the complete data set for each case focussing upon the basic question, "What is going on here?" After reading and reflecting on that data set, the authors met and shared both perceptions arising from the data and the evidence upon which those perceptions were based. This cycle was repeated for each case.

In searching for factors that characterized the student teaching experience, the authors focused upon how (the process) the cooperating teacher communicated with the student teacher and what (the content) the cooperating teacher communicated to the student teacher. Generalizations

that characterized the more effective dyads were drawn; the same procedure was followed for the less effective dyads. Then the two sets of generalizations were compared and contrasted. Emergent themes and patterns, as well as salient anomalies, were combined into a composite description of a "more effective" student teaching experience. Finally, a listing was made of those factors which appear to be associated with more effective practice.

Findings

Quantitative

It was expected that scores of some of the quantitative instruments would be predictive of "more" or "less" effective student teaching experiences. Such was not the case. In fact, almost the opposite was true. Individual scores are shown in Table 1. Student Teacher 1 achieved the lowest scores in five of the ten instruments: empathy, self-esteem, conceptual level, cognitive style (toward field dependency), and vocabulary. The low vocabulary score indicated a mismatch on this dimension with the cooperating teacher, who had the highest score-vocabulary score. Student Teacher 6 had the highest score for empathy, locus of control (higher sense of control over the teaching situation), self-esteem, and cognitive style.

The group means for those in the more effective experiences were lower than the group means for those in the less effective experiences on most instruments (see Table 2). On only two instruments, flexibility and vocabulary, did those in the more effective experiences achieve the higher group mean, and then the differences were minimal. Those participants in the less effective experiences scored higher in (1) empathy, (2) locus of control, (3) educational preference (toward progressive), (4) self, task, and impact concerns, (5) self-esteem, (6) conceptual levels, and (7) teacher

Table 1. Scores of Personality, Attitude, Cognitive and Professional Measures by Individual

	More Effective						Less Effective					
	CT1	ST1	CT2	ST2	CT3	ST3	CT4	ST4	CT5	ST5	CT6	ST6
Empathy	116.67	102.00	113.00	132.67	108.67	122.33	116.67	125.67	122.67	132.33	125.00	136.33
Locus of Control	26.67	31.00	33.67	32.00	30.67	33.00	32.67	26.67	35.00	38.33	33.33	42.00
Flexibility	68.67	68.00	86.00	91.33	71.33	81.33	66.67	69.33	83.67	71.33	73.33	89.67
Educational Preference Scale	91.00	93.00	82.00	110.67	99.00	87.33	94.33	93.33	100.33	103.33	94.33	95.00
Teacher Concerns Checklist												
Self	32.67	66.33	36.33	76.00	45.67	58.67	64.00	84.00	67.33	35.33	34.33	72.00
Task	18.67	21.67	19.67	18.67	18.67	17.67	17.67	25.67	27.67	10.36	18.67	23.33
Impact	90.00	115.33	88.00	131.00	87.00	84.00	120.67	130.00	136.00	102.00	98.33	129.33
Self Esteem	119.67	113.33	124.67	123.33	109.67	114.33	126.00	120.00	123.00	126.33	135.00	139.00
Conceptual Level	1.20	1.00	1.40	1.50	2.20	1.80	1.75	1.60	1.80	1.20	1.50	1.40
Cognitive Style	10.00	8.00	15.00	15.00	12.00	12.00	11.00	14.00	14.00	8.00	16.00	18.00
Teacher Work-Life Inventory	82.00	93.00	96.00	88.88	94.00	111.00	107.00	119.00	105.00	96.00	88.00	102.00
Vocabulary	91.00	36.00	73.00	72.00	38.00	44.00	42.00	39.00	89.00	43.00	89.00	50.00

Table 2. Ranges and Means of Personality, Attitude, Cognitive and Professional Measures for Total Sample and Comparison Group

	Possible Range	Grand Mean (N = 181)	More Effective Mean (N = 6)	Less Effective Mean (N = 6)
Empathy	22-138	115.42	115.89	126.45
Locus of Control	11-44	30.96	31.17	34.67
Flexibility	17-102	67.02	77.78	75.67
Educational Preference Scale	30-150	90.57	93.84	96.78
Teachers Concerns Checklist				
Self	20-100	60.09	52.61	60.00
Task	7-35	18.94	19.17	20.57
Impact	29-145	100.14	99.22	119.39
Self-Esteem	36-144	108.03	117.5	128.22
Conceptual Level	0-7	1.45	1.52	1.54
Cognitive Style	0-18	12.64	12.00	13.50
Teacher Work-Life Inventory	39-156	100.00	94.00	102.84
Vocabulary	0-100	56.33	59.00	58.67

work life (more positive toward the workplace). Again, differences between the means were small.

Two of the three rating scales used as outcome measures in the study did differentiate between the two experiences in the predicted way (see Tables 3 and 4). Student teachers in the more effective experiences expressed higher satisfaction with student teaching. The performance ratings where the student teacher and the cooperating teacher each rated the other in the dyad also distinguished between more and less effective experiences; those involved in the more effective experiences rated their colleague higher on performance than did those in the less effective experiences. The third scale, a self rating, was not predictive; the cooperating teachers and student teachers in the less effective experiences rated themselves higher than did those in the more effective experiences.

Final evaluations of student teachers conducted as a requirement of the university preservice programs were also predictive of the more and less successful experiences. (Although student teachers were evaluated by both cooperating teachers and university supervisors, only the ratings made by the cooperating teachers are reported for the purposes of this paper). Student teachers associated with the more effective experiences received higher ratings than did the student teachers in the less effective experiences. It should also be noted that although both the final evaluations and the performance ratings of student teachers were outcome measures completed by the cooperating teachers, all cooperating teachers consistently rated their student teachers lower on the RITE performance rating instruments than on the final university evaluations.

Table 3. Scores on Satisfaction and Performance Rating Scales by Individual

	More Effective						Less Effective					
	CT1	ST1	CT2	ST2	CT3	ST3	CT4	ST4	CT5	ST5	CT6	ST6
Satisfaction		82		108		92		83		90		70
Performance Ratings												
CT of CT	4.43		4.86		3.93		4.21		4.50		4.85	
ST of ST		3.79		4.79		4.41		4.07		4.55		4.48
ST of CT	4.5		4.73		5.0		4.36		5.0		3.27	
CT of ST		3.67		4.25		4.18		2.48		4.38		3.85
Final Evaluations												
CT of ST		4.7		5.0		4.5		3.5		4.5		3.9

Table 4. Ranges and Means of Satisfaction and Performance Ratings Scales for Total Sample and Comparison Group

	Possible Range	Grand Mean (N = 181)	More Effective: Student Teachers (N = 3)	More Effective: Cooperating Teachers (N = 3)	Less Effective: Student Teachers (N = 3)	Less Effective: Cooperating Teachers (N = 3)
Satisfaction	22-110	90.72	94.00		81.00	
Performance Ratings						
CT of CT	1-5	4.60		4.41		4.52
ST of ST	1-5	4.36	4.33		4.37	
ST of CT	1-5	4.24		4.74		4.21
CT of ST	1-5	3.95	4.03		3.57	
Final Evaluations						
CT of ST	0-5		4.73		3.97	

In all six cases studied, the student teacher received better than average rating by the cooperating teacher, along with a recommendation that the student teacher be admitted to the teaching profession. However, a narrative section of the evaluation form reflected a difference between the more effective and less effective experiences.

The cooperating teachers in the more effective experiences focused on competencies achieved or made very positive statements about interpersonal skills. The comments below are representative:

1) can effectively motivate with innovative approaches and creative ideas
2) can maintain healthy discipline
3) has excellent student rapport
4) exhibited maturity and insight
5) vibrant and enthusiastic
6) understanding of tasks involved is outstanding

Cooperating teachers in the less effective experiences cited deficiencies or made generalized statements about the student teachers' interpersonal qualifications for teaching:

1) did not show initiative nor originality
2) needs more background and experience
3) has got to learn to communicate thoughts
4) demonstrated satisfactory skills
5) is a warm, caring person
6) is a good teacher

In summary, it appears that the quantitative instruments were not predictive of the more and less effective experiences. Three reasons can be advanced for this result: (1) the instruments themselves were not refined

enough to discriminate between the experiences, (2) the range represented by the sample was restricted (3) the constructs measured were not indicative of successful teaching. The only measures which corroborated the judgments of the RITE research staff were the final evaluations of student teachers by cooperating teachers and the performance ratings of cooperating teachers and student teachers completed by their counterpart in the dyad. The ratings, evaluations, and judgments were of different but related phenomena: the performance ratings and evaluations focused individually on cooperating teachers or student teachers; the judgments of the research staff also included the interactions between them in an attempt to capture a more holistic view. Even though different phenomena were involved, the clinical judgements of the participants and the research staff coincided. Implications of these findings will be discussed later.

Like the findings from the quantitative instruments, the findings from the observation data were not generally predictive of the more and less effective student teaching experiences.

A comparison was made between the more and less effective experiences for the per cent of time spent in various activities in the classrooms--warmup activities, instruction, direction giving, nonacademic (social/affective focus), procedural (related to rules and procedures), and unassigned (teacher gave no specific assignment). As expected, wide variations did occur between individuals (see Table 5). For example, Cooperating Teacher 3 spent an average of 90.5 per cent of the classroom observation time in instruction while Cooperating Teacher 6 spent 23.0 per cent of observed class time in instruction and 33.0 per cent in procedural activities. When group means were computed, differences moderated

Table 5. Percentage of Classroom Time Spent in Selected Categories by Individual

	More Effective						Less Effective					
	CT1	ST1	CT2	ST2	CT3	ST3	CT4	ST4	CT5	ST5	CT6	ST6
Instruction	52.5	49.0	56.0	37.0	90.5	73.0	85.5	80.0	53.5	64.5	23.0	22.0
Direction giving	14.0	14.0	11.5	17.0	2.5	5.0	4.5	10.0	8.5	7.0	28.0	11.5
Non-academic	13.5	14.0	9.0	2.0	0.0	11.0	5.5	5.0	20.5	10.0	0.0	24.5
Procedural	10.5	23.0	21.5	38.0	7.0	10.0	2.5	5.0	10.5	6.5	33.0	42.0
Unassigned	4.5	0.0	2.0	6.0	0.0	0.0	0.0	0.0	7.0	12.0	16.0	0.0

15

(see Table 6). The group means for instruction, direction giving, and procedural activities were comparable. However, those in the less effective experiences did average nearly twice as much time on nonacademic activities as those in the more effective experiences. Likewise, the ratio of unassigned time between those in the less effective experiences and those in the more effective experiences was 5:1, although the mean rates were relatively small for both groups.

A second comparison was made regarding the occurrences of certain teacher behaviors during the classroom observations. Because direction giving and questioning accounted for approximately one-half of the instructional behaviors (Griffin, at al., Note 1), mean rates for these two teaching variables were selected for this paper as illustrative of the teaching behaviors of this sample. Once again wide variations were seen between individuals (see Table 7). For example, Student Teacher 3 had a mean rate of .15 occurrences of direction giving while Student Teacher 4 had a mean rate of 3.68 (in terms of frequency of occurrences per student per hour).

Means were also computed for the occurrence of selected student behaviors. Behaviors chosen represented appropriate student activities in class, such as (1) actively participating in class discussions or working on assigned tasks, (2) movement in the classroom, and (3) student to student communication which the teacher did not desist or which did not violate stated or posted rules. The frequencies of inappropriate student behaviors, defined as those which the teacher corrected or which violated posted or stated rules (even if unnoticed by the teacher), were also included in the present study.

Table 6. Percentage of Classroom Time Spent in Selected Categories for Total Sample and Comparison Group

	Range	Grand Mean (N=20)	More Effective Mean (N = 6)	Less Effective Mean (N = 6)
Instruction	22.0-99.0	62.1	59.7	54.8
Direction giving	1.0-34.0	11.2	10.7	11.6
Nonacademic	0.0-24.5	7.3	8.3	15.3
Procedural	0.0-42.0	16.7	18.4	16.6
Unassigned	0.0-16.0	2.1	2.1	9.7

17

Table 7. Means for Selected Classroom Observation Variables by Individuals

	More Effective						Less Effective					
	CT1	ST1	CT2	ST2	CT3	ST3	CT4	ST4	CT5	ST5	CT6	ST6
Teacher Behaviors												
Direction giving	.57	.57	.64	.78	.68	.15	1.17	3.68	1.81	1.53	3.28	.56
Questioning	.36	.49	.27	.62	.39	.97	1.21	1.35	.68	.78	.37	.05
Student Behaviors												
Active participation	.49	.64	.60	.82	.61	1.71	1.34	2.15	1.60	.29	1.68	.67
Student movement in classroom	.23	.14	.06	.00	.23	.18	.08	.67	.38	.70	.22	.25
Student to student communication (appropriate)	.38	.10	.28	.16	.09	.08	.08	.09	.07	.37	.15	.06
Inapparopriate behavior	.12	.04	.09	.09	.05	.00	.34	.29	.79	.05	.45	.27

* figures reported are average rates of activity per student per hour

In five classrooms the cooperating teacher was associated with higher rates of inappropriate behaviors; in the sixth classroom both rates were the same. However, the more and less effective experiences were clearly different in regard to student behaviors. Most notably, rates of inappropriate behavior were consistently lower for those in the more effective experience. Student teachers in the more effective experiences were also associated with lower rates of student movement compared to their cooperating teachers; the reverse was true for student teachers in the less effective experiences.

Finally, means were computed for those in both experiences on each of the teacher and student behaviors (see Table 8). For five of the six behaviors, those associated with the less effective experiences exhibited higher mean rates; direction giving, questioning, active student participation, student movement, and inappropriate behavior. Those in the more effective experiences had a slightly higher mean for student to student communication. The picture which emerges of the classrooms in the less effective experiences is one of high levels of both teacher and student activity. The ratios of means of the more to less effective experiences are illustrative of the differences found: direction giving, 1:4; questioning, 2:3; active participation, 2:3; student movement 1:2; student to student communication, 9:7; and inappropriate behavior, 1:6.

To summarize, the observation data did indicate differences between the more and less effective experiences; specifically, (1) more nonacademic use of time and more unassigned time in less effective experiences, and (2) more direction giving, questioning, student participation, student movement, and inappropriate behavior in less effective experiences. In addition, each

Table 8. Means for Selected Classroom Observation Variables for Total Sample and Comparison Group

	Grand Mean (N=20)	More Effective Mean (N=6)	Less Effective Mean (N=6)
Teacher Behaviors			
Direction giving	1.07	.56	2.01
Questioning	.56	.52	.74
Student Behaviors			
Active participation	1.06	.81	1.29
Student movement in classroom	.36	.14	.38
Student to student communication (appropriate)	.18	.18	.14
Inappropriate behavior	.21	.06	.36

*figures reported are average rates of activity per student per hour

cooperating teacher in the more effective experiences allowed more student movement in the classroom than did their student teacher. The opposite was true in the less effective experiences. This was the single, consistently predictive teaching variable investigated in this study--every student teacher in the more effective experience reduced the amount of student movement while every student teacher in the less effective experience allowed more student movement. This phenomenon may be the observed teaching practice underlying both the final evaluations by cooperating teachers and the clinical judgments of RITE research staff.

Qualitative

The holistic view upon which the judgements of the research staff were based cannot, in the opinion of the authors, be reduced to numbers. However, it is possible to identify characteristics and themes that emerged from the qualitative examination of the data and to present supportive evidence. Analysis of the data from all six student teaching experiences generated characterizing factors which clearly distinguish the more effective from the less effective experiences.

All cooperating teachers appeared to hold a set of common implicit beliefs:

1) Learning by experience is necessary.
2) Teaching includes the enculturation of morals and values and community mores.
3) Motivation is better than discipline but the latter is necessary.
4) Workplace norms must be attended.
5) Professionalism means assumption of responsibility.

The teachers in the more effective experiences were differentiated from those in the less effective experiences by the degree and directionality

with which their practice appeared to moderate these beliefs. Teachers in the more effective experiences appeared to function in a more open and conditional exercise of these beliefs in contrast to teachers in the less effective experiences who appeared to function in a more closed and absolute manner. The differentiation was one of tendency or degree, not one of discrete classification.

The belief that learning by experience is necessary appeared to be moderated operationally by the teachers in the more effective experiences to learning by experience is necessary but not sufficient and must be accompanied by directed reflection upon the experience. The belief that teaching includes the enculturation of morals and values and community mores appeared to be moderated by the teachers in the more effective experiences to include awareness of and respect for varying group and individual beliefs and perspectives. The belief that motivation is better than discipline but the latter is necessary appeared to be moderated by teachers in the more effective experiences by consideration of ends and purposes and by awareness of the relationship between teacher and pupil behavior. The belief that workplace norms must be attended appeared to be moderated by teachers in the more effective experiences by recognition of organizational complexity and requirements. And the belief that professionalism means assumption of responsibility was moderated by an expanded perception of responsibility to include the right to make decisions and have a degree of control over circumstances as well as acceptance of blame.

Several additional points of contrast were found between the more effective and less effective experiences:

1) When student teacher readiness was less than what the cooperating teacher expected, the more effective cooperating teacher attempted to adjust

the instruction and the experience to that reality while the less effective cooperating teacher complained of the inadequacies and justified failure in the experience in terms of those inadequacies.

2) Although all of the participants in both groups agreed that it was the responsibility of the cooperating teacher to provide information, teachers in the more effective experience provided more useful information.

3) In the less effective experience the cooperating teacher could generally identify what he or she regarded as effective teaching when a student teacher did it but did not have specific means for initiating that behavior in the student teacher.

Consistent patterns of communication which distinguished between the experiences also emerged. Cooperating teachers in the more effective experiences: (1) were more proactive than reactive, (2) were clearer and more specific in their communications, including feedback to the student teacher, (3) modeled the behaviors, teaching techniques, and attitudes they recommended to the student teachers, (4) exhibited consistency between their behaviors and their verbal expressions, (5) were more adaptable and flexible, (6) provided rationales for their actions and suggestions, (7) practiced self-reflection as an active learner, and (8) had positive, problem-solving approaches to most situations.

All cooperating teachers attended to five areas in working with their student teachers: (1) managing the classroom, (2) planning and implementing academic activities, (3) evaluating student performance and diagnosing student needs, (4) accommodating work place norms, and (5) developing a sense of professionalism, i.e., assuming responsibility. In every case the majority of time was devoted to the first and second areas. It was the

interactions around these foci which distinguished between the more and the less effective experiences.

While it is impossible to include in this paper the complete qualitative data from which these findings came, selected illustrative examples are included.

Managing the classroom. A current major focus in both educational research and educational practice is classroom management (Emmer, Evertson, Sanford, Clements, & Worsham, 1984), and data from this study reflect this concern. Specific skills in this area were attended, but this attention to specific skills in the performance of predetermined tasks did not appear, in and of itself, to distinguish the more effective from the less effective student teaching experience.

In the more effective experiences, training in classroom management was approached from a pro-active stance of clarifying goals and objectives, development and use of means consistent with and directed toward stated goals and objectives, contingency planning which allowed for continuous monitoring and adaptation, and the active involvement of the student teacher in evaluation and decision making.

Although cooperating teachers in both more and less effective experiences emphasized classroom organization as a means to an end, the groups were qualitatively different in both means and ends. In the less effective experiences there is less specific, articulated instruction and more dependence on personal experience. A "watch what I do," trial and error training appeared to take place in an unexamined patterning which precluded introspective analysis or analytical problem solving. In the more effective experience, the relations of ends and means were consciously, verbally attended, in contrast to more mechanical training in the less

effective experience. For example, in the more effective experience, management techniques were taught as a "means," a way to provide greater opportunity for more effective teaching/learning to occur. In the less effective experience classroom management was an "end," i.e., the class must be quiet and orderly because a class should be quite and orderly.

The concept of "time on task" also received differing emphasis. In the more effective experience it appeared as an effort to have students spend relatively more productive time on a meaningful task in order to efficiently progress toward a specified goal. In the less effective experience the concept appeared as an understanding that students should be doing a task all the time, and therefore a good teacher had enough "things" planned to keep the students "busy" all the time and did not allow any time for "messing around."

Two concepts, motivation and discipline, were closely aligned with the notion of classroom management in all experiences. Motivation appeared to be viewed as a character trait to be instilled in the students; discipline as teacher effort to control student behaviors. Both were viewed as means to achieve student compliance and cooperation. Motivation is pro-active; discipline reactive. Motivation is viewed as primarily desirable, its presence assumed by the presence of the behaviors which it, by definition, generates. Discipline is considered less desirable, but necessary as a controlling agent to the degree that the generating trait motivation is absent. The rule seems to be: if you can't motivate, you must discipline.

The student teacher in a more effective experience explained:

> I'm under a fantastic teacher. I cannot get over her control with the class: her manner, her techniques, such as her questioning techniques - it gets the kids so excited to want to answer the

questions and do the work.

In one of the less effective experiences the student teacher reported:

> CT tends to harp on the kids when she is displeased with even something very simple. I am not like this and therefore have a hard time putting up with it. I can see that the kids react to it by not telling her things she should know. I hope I never start to follow after her.

Her cooperating teacher reprimanded this student teacher for "being afraid" to "be negative" with the students when that was "what some kids need."

In the more effective experiences motivation was more in evidence; in the less effective experiences there was greater reliance on discipline.

Planning and implementing academic activities. In neither the more effective nor the less effective experiences was subject area competency a high priority focus. Primary emphasis in all experiences was on daily lesson plans and specific instructional procedures.

Again, the differences between the more and less effective experiences appeared in the content of exchanges and in the nature of the interactions between the student teachers and the cooperating teachers. Academic deficiency, when recognized by the cooperating teachers, was treated in the more effective experiences as situation specific mistakes or omissions which the student teacher was instructed to correct. For example, one cooperating teacher reported that her student teacher

> ... did misteach plural possessives. I let her go ahead. Later we discussed that she will have to go back and reteach it. It is better if she does it. If I do it, it looks like I am better than she is. This way she can admit to a mistake.

The cooperating teachers appeared to accept the student teachers' level of academic competency as a given and to proceed directly to lesson planning and implementation, working with the student teachers, correcting, fleshing out, omitting, item by item and lesson by lesson. In the less effective experiences the cooperating teachers appeared to be both annoyed at the inability of the student teacher and confused about how to deal with it. These cooperating teachers offered generalized instructions and pressured the student teacher to work harder and get more done; to be more "creative" and "take more initiative" to get the students to "work" and to produce "products."

In the more effective experiences the cooperating teachers had a "lot of material available" and were willing to share it and help student teachers to plan. In the less effective experiences the student teachers expressed frustration at the lack of help from their cooperating teachers. Instructions from the cooperating teachers were often unclear.

The following examples taken from conferences between student teachers and cooperating teachers illustrate these differences between the interactions in the more effective and less effective experiences. This example is taken from a taped conference in a more effective experience.

> CT: I think you don't quite realize what it takes to get this next assignment across. With this particular group, giving them a well thought out, well prepared set of directions does not necessarily mean that they are going to read them. So plan time to go over that sheet that we prepared point by point. Also, tell them to have the sample paper right beside the direction sheet so they can write on it as you go over the directions. The more specific you are, the better.

You have to constantly keep that in mind. Sometimes emphasize. You are going to teach this lesson in two ways. You are going to teach it by having them do the assignment, but I think it is also wise to announce that you are going to give a quiz on the information on that sheet. Because we have simplified that sheet and made it so clear, everything that is on that sheet they need to have for a quiz.

This example is taken from a less effective experience.

CT: O.K. We were talking about putting the "y" ending on "rain..." We're not actually into adjectives.

ST: I know.

CT: Right yet. We're still on the mountain. And what I got from reading the book was not so much ... But you had to say that it changes the meaning of the word. Probably just go at it from a suffix point of view. And when you put the "y" on, that is an ending, or suffix. And I try to use those interchangeably so eventually suffix will have a meaning for them.

ST: O.K.

CT: They know endings, I think, pretty well ...."ing" and so forth. Just that it changes the word. And you might even say this is the root word because I'd like for them to get the...

ST: O.K. Sounds good.

CT: It's not something that they have had an awful lot of.

This cooperating teacher expressed concern that her student teacher had so much trouble understanding instructions. She felt that the student

teacher was "intelligent enough" but just did not "try hard enough" to understand.

One further example is illustrative of less effective interaction. The cooperating teacher told her student teacher that she had to "take more initiative, more responsibility," directed her to "encourage the children to read more through some sort of reading program," and told her to "develop some sort of chart" for the students to use. Reacting to the plans which the student teacher then produced, the cooperating teacher told her that she had some "gross errors" and that the format "ought to be more like a standardized test format." The cooperating teacher then expressed her frustration regarding the work which the student teacher had turned in and added, "Hopefully, she'll learn from experience."

In the area of planning and implementing academic activities the more effective experiences were distinguished by more clarity and specificity of communication between the cooperating teacher and the student teacher; a positive, problem solving approach; and a greater sense of professionalism with which the student teacher is viewed.

Evaluating student performance and diagnosing student needs. Since it is generally accepted that evaluating student performance and diagnosing student needs are primarily the responsibility of the classroom teacher, one would expect to find these areas critically attended in the student teaching experience. Findings in this study, however, corroborate findings in other studies suggesting that little attention is given to evaluation (Shavelson, 1983; Yinger, 1977; Morine, Note 8; Taylor, Note 9). In addition, this study also found that the relatively limited attention tended to be couched in a pervasive negativism; no participant expressed enjoyment, enthusiasm, nor even a strong apologia. The general perspective expressed was

acquiescence to the necessity and/or inevitability forced by circumstances and limitations. None of the cooperating teachers articulated a clear, consistent concept of grading, evaluation, or of the process of diagnosing student needs or abilities, but they each and every one indicated that they were able to determine "where the students are" although they did not tell how they were able to do this. They seemed to regard the ability as intuitive and gained through experience.

The differences between the more and less effective experiences appeared in the degree of conditionality with which participants functioned in this area. In the less effective experiences there was greater acceptance of grading as objective evidence of student ability or performance level. In the more effective experiences there was more reticence and questioning with regard to the meaning, use, and effects of grading.

Accommodating to workplace norms. The student teachers in the more effective experiences expressed a dislike for the details exacted by the workplace but recognized the importance of conforming to them. One student teacher reported:

> There are so many things that you have to be so exact on. If you miss one student in the roll book that can really cause severe problems. I dislike a lot of the paperwork more than I thought I would.

In addition to showing the student teacher how to comply with the specific requirements of the workplace, the cooperating teacher in the more effective experience explained the reasons for the requirements and put them in perspective as to their relative importance. For example, one cooperating teacher explained an attendance check system this way:

They asked you to do one page of the register but it's really not hard to do because you take it off of your attendance cards. You do have to check on those attendance cards. You can't let a kid slip in and not bring his attendance card. You have to be careful what you do because if it stays in the office then that kid remains officially absent and the office will call his home and X is absent from school. Is he ill? The parent responds, 'Why, he's been there a week'- and it makes the office look like idiots...then we get in trouble. The parent has a heart attack because he thinks the kid's been ditching school. So you have to make sure you don't let it slip. There's a box on the secretary's desk so you just kinda look behind your number and make sure that there is an attendance card in there if the kid's been absent. Kinda keep a check on that...keeps you out of hot water.

In contrast, a cooperating teacher in a less effective experience stated school policy to the student teacher and expressed her own disdain for the policy, but did not explain the purpose or reason for the policy.

And late...O.K. Classroom policy for early arrivals and late dismissals. O.K. Early arrivals we don't have many of. Well, X comes in late sometimes. Actually, they are supposed to go to the gym or the library until they are dismissed. Evidently, he just doesn't eat breakfast, therefore, he just comes on to the room, which doesn't bother me. You know, I could make him go, but it's not worth it. To me, it's not worth the hassle. O.K. Late dismissals ...the policy is that if you keep a child, you have to notify the parents. In other words, if you decided that somebody up there had to stay five minutes after, then you have to go to the phone and contact the parent and tell the parent why the child is staying after school. I know that is our

school's policy and, possibly, the district policy.

Perception and perspective appeared to differentiate the more from the less effective experience in regard to attention to requirements of the school as a workplace. Participants in the more effective experiences evinced a greater sense of being a part of the organization--more of a "we" perspective--in contrast to a more "us/them" view of participants in the less effective experiences. This, in turn, appeared to generate a more cooperative mode of functioning which involved understanding of substance in contrast to a more literal acquiescence to stated procedures, often from a defensive stance.

Developing a sense of professionalism. The cooperating teachers in the less effective experiences tended to "tell" their student teachers, to treat them more as "students," whereas the cooperating teachers in the more effective experiences assumed a more "peer" perspective for communication. A student teacher in a more effective experience reported "we confer on matters that trouble me and ones that I don't understand," and went on to say that these conferences were "very" helpful because of the "constructive criticism" offered by the cooperating teacher. This student teacher also reported that "[cooperating teacher] and I have really established a great teaching relationship," explaining that she was always included in planning sessions which "really makes me feel a part of the whole deal." She felt that the cooperating teacher's treatment of her as an "equal co-partner - not someone to babysit" had helped her to gain a sense of professionalism.

Professionalism was often associated with initiative, dependability, and assumption of responsibilities, e.g., "[student teacher] is growing more professional, accepting responsibilities readily." The student teachers associated professionalism in their cooperating teachers with respect, both

student respect for the cooperating teacher and cooperating teacher respect for the students. Both the cooperating teacher and student teacher in a more effective experience were pleased with their professional initiative in "working cooperatively" on a plan of evaluation "beyond that required by the university." In the more effective experiences the cooperating teachers expressed the opinion that their association with the student teacher had been mutually beneficial, resulting in both of them becoming "better teachers."

Patterns of communication. The more effective experiences were also distinguished from the less effective experiences by how the cooperating teachers and student teachers worked and planned together. These cooperating teachers demonstrated a positive, problem-solving approach in their work with student teachers and in their own classroom teaching. They not only modeled the process, they also engaged student teachers in the process as the student teachers were initiated into the classroom. These cooperating teachers thought ahead to identify possible problems and to suggest alternatives, especially early in the semester. This example occurred in a planning conference in September:

> You have given me your overall plans, but I do have some suggestions. I think again you don't quite realize what it takes to get the job application preparation across. I was not here the day you explained this personal data role, so I don't know how thoroughly you went into it. With this particular grade level, because you are giving them a well thought out, well prepared set of directions, does not necessarily mean they are going to read them. You must go over any set of directions when you are really trying to get something across to the students.

The student teacher's response to the lesson and comments of the cooperating teacher is seen in this passage from the journal:

> I really thought the exercise was much too simple, but [cooperating teacher] was right. They don't know how to follow directions. There wasn't one perfect paper.

As illustrated in the previous example, the cooperating teachers in the more effective experiences also shared their large repertoire of teaching activities and materials without requiring the student teachers to adopt those same activities and materials. This practice identified resources for the student teachers to use immediately when making planning decisions and modeled for student teachers another step in the problem-solving process. Since inservice teachers often judge staff development activities by the immediately useful ideas they can carry away with them (Doyle & Ponder, 1977), sharing teaching activities and materials enhanced the value of student teaching for the student teachers.

The cooperating teachers in the more effective experiences also gave rationales for their actions and suggestions. Sharing with the student teachers the reasons for certain decisions demonstrated the problem-solving approach explicitly for student teachers. This practice is seen in this example where the cooperating teacher explained the use of a sample letter:

> Incidentally, if I haven't mentioned this before, this is a case where I invite them to use the phrasing of the letter. This is one of the reasons we have given them the sample because the language is simple and proper. So they have the model and they should [use the phrasing]. You need to emphasize this because so much of the time in class, a library assignment or whatever, we are always telling them about plagiarism and not to use the exact words.

Flexibility and adaptability characterized the cooperating teachers and student teachers in the more effective experiences as they implemented their plans and worked together. In the following example the student teacher commented about adjustments required to accommodate scheduling problems:

> This has been a very strange week - minimum days, assemblies - all of which take time away from the actual classroom teaching time.
>
> I really had to change my lesson plans around to fit the changed periods. Through this, I've learned how important it is to be flexible as a teacher and to be able to juggle your plans for the week.
>
> [Cooperating teacher] helped by reviewing my plans with me and helping me to decide what I would be able to do during my 15 minute periods, so I didn't just waste the time.

As the student teachers became active in planning and teaching, cooperating teachers in the more effective experiences did not ask more of the student teachers than the cooperating teachers asked of themselves. These cooperating teachers not only recommended various teaching techniques, attitudes and behaviors, they also used the same behaviors, attitudes and techniques in their own interactions with students. In other words, the cooperating teachers were consistent in what they did and in what they said. In one conference, for example, the cooperating teacher made suggestions for controlling conversations while the student teacher was teaching:

> You'll develop some techniques to keep the conversation on a light level, or take control of the conversation before it ever gets started. There are physical things that you can do. For instance, sitting forward and leaning forward, or sitting beside them. You may have noticed a couple of times that I'll move around and will talk to them, or will lean forward ...

In comparison to the less effective experiences, the cooperating teachers in the more effective experiences communicated clearly and specifically, especially when providing feedback. Student teachers received more concrete, constructive comments, as in the following conference exchange:

> You had plenty of time for spelling. You seem to be handling the transition from subject to subject very well...You forgot some of the things that are automatic with spelling like "Put your pencil away," "Get out your marker," and "If you don't finish take it home with you."

Finally, the cooperating teachers in the more effective experiences reflected about their interactions with and effects upon the student teachers. These reflections often guided what the cooperating teacher did subsequently. In this journal entry, the cooperating teacher recounted the student teacher's first day in charge of the classroom:

> [Student teacher's] first day of total teach. She seems well prepared in all the subjects that she will instruct. I realize that she wants to implement her own ideas - she seems somewhat reluctant to put those ideas down on paper for me to see prior to instruction. Perhaps I have overdone my suggestions!?! We'll talk about this and try to improve this.
>
> [Student teacher] has gained complete control of "her Math class." They respond and respect her and her instructions. I'm very pleased. [Her] progress has been super - now the big test of all day teaching! I'm confident she will be up to the test!

Conclusions

We may as yet be unable to measure quantitatively the effective student teaching experience but the participants and RITE research staff apparently

"knew it when they saw it." Some underlying criteria seem to exist which form the bases for these judgements. In the present study, the university final evaluations of student teachers proved to be more valid assessment than appeared at first glance (Griffin et al., Note 1). Incorporating a performance evaluation of the cooperating teacher and combining it with the evaluation of the student teacher provided a powerful evaluation of the student teaching experience.

The single consistently predictive teaching variable found in this study was that every student teacher in a more effective experience reduced the amount of student movement in the classroom while every student teacher in a less effective experience allowed progressively more movement. In the less effective experiences there was more nonacademic use of time and more unassigned time in the classroom, more direction giving, questioning, student participation, student movement, and more inappropriate behavior.

Findings of this study indicate that certain practices of interaction during the student teaching experience are more likely to be related to the development of the student teachers' ability to successfully assume the responsibilities of a teaching position. Cooperating teachers in the more effective experiences:

1) were more proactive than reactive;
2) were clearer and more specific in their communication, including feedback to the student teacher;
3) modeled the behaviors, teaching techniques, and attitudes they recommended to the student teachers;
4) exhibited greater consistency between their behaviors and their verbal expressions;
5) were more adaptable and flexible;

6) provided rationales for their actions and suggestions;

7) practiced self-reflection as an active learner;

8) employed positive, problem-solving approaches in most situations.

While idiosyncratic factors and as yet incomplete understanding of the entire process make success impossible to predict or ensure in any given student teaching experience, attention to the findings of this study will increase the probability of developing more effective programs of preservice field experience.

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